What is claimed is:

1. Cubic boron nitride abrasive grains which are substantially mono-crystalline and assume a black color.

2. Cubic boron nitride abrasive grains according to claim 1, wherein the abrasive grains have a packing ratio calculated by dividing a bulk density thereof by the true density of cubic boron nitride (3.48 g/cm^3) falling within a range of:

0.536 to 0.282 when the abrasive grains belong to a JIS B 4130: 1998 grit size fraction of 40/50;

0.534 to 0.280 when the abrasive grains belong to a grit size fraction of 50/60;

0.532 to 0.278 when the abrasive grains belong to a grit size fraction of 60/80;

0.526 to 0.274 when the abrasive grains belong to a grit size fraction of 80/100;

0.520 to 0.269 when the abrasive grains belong to a grit size fraction of 100/120;

0.511 to 0.264 when the abrasive grains belong to a grit size fraction of 120/140;

0.506 to 0.259 when the abrasive grains belong to a grit size fraction of 140/170;

0.500 to 0.253 when the abrasive grains belong to a grit size fraction of 170/200;

0.497 to 0.246 when the abrasive grains belong to a

grit size fraction of 200/230;

0.491 to 0.240 when the abrasive grains belong to a grit size fraction of 230/270;

0.486 to 0.233 when the abrasive grains belong to a grit size fraction of 270/325; and

0.480 to 0.226 when the abrasive grains belong to a grit size fraction of 325/400.

3. A method for producing cubic boron nitride abrasive grains which are substantially mono-crystalline and assume a black color, comprising a step of maintaining a starting material mixture containing a boron source and hexagonal boron nitride under pressure and temperature conditions where cubic boron nitride remains thermodynamically stable.

4. A method for producing cubic boron nitride abrasive grains according to claim 3, wherein the boron source is at least one species selected from boron and boron carbide.

5. A method for producing cubic boron nitride abrasive grains according to claim 3, wherein the starting material mixture contains cubic boron nitride twins as seed crystals.

6. A method for producing cubic boron nitride abrasive grains according to claim 3, wherein the starting material mixture contains $LiMBN_2$ (M represents Ca, Ba, or Mg) serving as a catalyst substance.

7. A method for producing cubic boron nitride abrasive grains according to claim 6, wherein the $LiMBN_2$ serving as the catalyst substance is $LiCaBN_2$.

8. A method for producing cubic boron nitride abrasive grains according to claim 3, wherein the starting material mixture contains $LiMBN_2$ (M represents Ca, Ba, or Mg) serving as a catalyst substance and at least one species selected from the group consisting of an alkali metal, an alkaline earth metal, an alkali metal nitride, an alkali metal boronitride, an alkaline earth metal nitride, and an alkaline earth metal boronitride.

9. A method for producing cubic boron nitride abrasive grains, comprising a step of crushing cubic boron nitride abrasive grains produced through a method for producing cubic boron nitride abrasive grains according to claim 3.

10. A method for producing cubic boron nitride abrasive grains according to claim 9, wherein the step of crushing is performed by means of a roll crusher.

11. A method for producing cubic boron nitride abrasive grains, comprising a step of removing particles having an L/T ratio of 1.5 or less from cubic boron nitride abrasive grains produced through a method according to claim 3, where L

represents a major diameter (μm) and T represents a thickness (μm) defined in a three-axis system.

12. Cubic boron nitride abrasive grains which are produced through a method for producing cubic boron nitride abrasive grains according to claim 3.

13. A grinding wheel which is produced by bonding cubic boron nitride abrasive grains according to claim 1 by use of a bond.

14. A grinding wheel which is produced by bonding cubic boron nitride abrasive grains according to claim 12 by use of a bond.

15. A grinding wheel according to claim 13, wherein the bond is a vitrified bond.

16. A grinding wheel according to claim 15, wherein the vitrified bond is incorporated into the grinding wheel in an amount falling within a range of 10 to 50% by volume.

17. A coated abrasive produced by fixing cubic boron nitride abrasive grains according to claim 1 on cotton cloth or a similar cloth or paper substrate by use of an adhesive.

18. A coated abrasive produced by fixing cubic boron

nitride abrasive grains according to claim 12 on cotton cloth or a similar cloth or paper substrate by use of an adhesive.